

What is claimed is;

1. An ion implantation equipment comprising  
an ion source,  
a mass separation means to extract so as to separate  
5 an ion beam having a specified mass from plurality of ion  
beams by giving a magnetic field so as to deflect said ion  
beams generated from an ion source,  
a scanning means for scanning said ion beams by giving  
said magnetic field changing magnetic field strength  
10 thereof in time to said ion beam extracted by said mass  
separation means, and  
an angle correction means for correcting a scan angle  
of said ion beam scanned by said scanning means in a  
scanning surface so as to irradiate corrected said ion beam  
15 into an implantation target.
2. An ion implantation equipment comprising  
an ion source,  
a mass separation means to extract so as to separate  
an ion beam having a specified mass from plurality of ion  
beams by giving a magnetic field so as to deflect said ion  
beams generated from an ion source,  
20 a scan means for scanning the ion beam extracted by  
said mass isolation means by adding magnetic field changing  
a magnetic field strength in time, and  
25 an angle correction means for correcting a scanning  
angle in a scanning surface of said ion beam by adding said  
magnetic field changing magnetic field strength thereof in

time to said ion beam scanned by said scanning means.

3. An ion implantation equipment as defined in claims 1 and 2, wherein

5           said scanning means for putting together a scanning surface of said ion beam with a deflection surfaceface of said ion beam deflected by said mass separation means.

4. An ion implantation equipment as defined in claim 2, wherein

10          said scanning means comprises an electromagnet for scanning to provide said magnetic field to said ion beam extracted by said mass separation means, a control signal generation means for said scanning to generate a control signal for said scanning, and a scanning electric current control means to change size in time of said electric current flowing into said electromagnet responding to said control signal for said scanning, and

15          said angle correction means comprises an electromagnet for angle correction to provided said magnetic field to said ion beam scanned by said scanning means, a control signal generating means for angle compensation to generate a control signal for said angle correction, and an angle correction electric current control means to change size in time of said electric current flowing into said electromagnet for said angle correction responding to said control signal for said angle correction.

25          5. An ion implantation equipment as defined in claim 2, wherein

1                 said scanning means comprises an electromagnet for  
scanning to provide said magnetic field to said ion beam  
extracted by said mass separation means, a control signal  
generation means for said scanning to generate a control  
5                 signal for said scanning, and a scanning electric current  
control means to change size in time of said electric  
current flowing into said electromagnet responding to said  
control signal for said scanning, and

2                 said angle correction means comprises an electromagnet  
10                 for angle correction to provided said magnetic field to  
said ion beam scanned by said scanning means, a control  
signal generating means for angle compensation to generate  
a control signal for said angle correction, a phase control  
means to move a phase of said control signal for said angle  
15                 correction 180 degrees to said control signal for said  
scanning, and an angle correction electric current control  
means to change size in time of said electric current  
flowing into said electromagnet for said angle correction  
responding to said control signal for said angle correction  
20                 being controlled said phase by said phase control means.

3                 6. An ion ~~implantation~~ equipment as defined in claim 2,  
wherein

4                 said scanning means comprises an electromagnet for  
scanning to provide said magnetic field to said ion beam  
25                 extracted by said mass separation means, a control signal  
generation means for said scanning to generate a control  
signal for said scanning, and a scanning electric current

control means to change size in time of said electric current flowing into said electromagnet responding to said control signal for said scanning, and

said angle correction means comprises an electromagnet 5 for angle correction to provide said magnetic field to said ion beam scanned by said scanning means, a control signal generating means for angle correction to generate said control signal for said angle correction 180 degrees to said control signal for said scanning, and an angle 10 correction electric current control means to change size in time of said electric current flowing into said electromagnet for said angle correction responding to said control signal for said angle correction.

7. An ion implantation method comprising the steps of 15 giving a magnetic field so as to deflect said ion beams generated from an ion source,

extracting so as to separate an ion beam having a specified mass from plurality of ion beams,

scanning said ion beams by giving said magnetic field 20 changing magnetic field strength thereof in time to said ion beam extracted, and

correcting a scanning angle of said ion beam scanned in a scanning surface so as to irradiate corrected said ion beam into an implantation target.

25 8. An ion implantation method comprising the steps of giving a magnetic field so as to deflect said ion beams generated from an ion source,

extracting so as to separate an ion beam having a specified mass from plurality of ion beams ,

scanning the ion beam extracted by said mass isolation means by adding magnetic field changing a magnetic field 5 strength in time, and

correcting a scanning angle in a scanning surface of said ion beam by adding said magnetic field changing magnetic field strength thereof in time to said ion beam scanned so as to irradiate corrected said ion beam into an 10 implantation target.